

CLAIMS:

1. A portable telephone apparatus comprising:  
an antenna for holding communication with a  
base station or a parent unit;  
voice input means including a microphone;  
voice output means including a speaker or a  
headphone;  
operating means including keys and a display  
unit used by a user for operating the apparatus;  
telephone control means for modulating a  
voice signal from the voice input means and outputting  
the modulated signal to the antenna and demodulating  
a radio signal received through the antenna, extracting  
and outputting the voice signal to the voice output  
means;  
a chargeable battery for supplying power to  
the apparatus;  
storage means for storing a compressed music  
data; and  
data restoration means for reading and  
expanding the data stored in the storage means,  
reproducing the data as a music signal and outputting  
the music signal to the voice output means.
2. A portable telephone apparatus comprising:  
an antenna for holding communication with a  
base station or a parent unit;  
voice input means including a microphone;

voice output means including a speaker or a headphone;

operating means including keys and a display unit used by a user operating the apparatus;

telephone control means for modulating a voice signal from the voice input means and outputting the modulated signal to the antenna and demodulating a radio signal received through the antenna, extracting and outputting the voice signal;

a chargeable battery for supplying power to the apparatus;

storage means for storing a compressed music data;

data restoration means for reading and expanding the data stored in the storage means and reproducing the data as a music signal; and

switching means for selecting the voice signal demodulated by the telephone control means or the music signal reproduced by the data restoration means and outputting the selected signal to the voice output means;

wherein an operation of the switching means for switching and selecting the signal is performed through the operating means.

3. A portable telephone apparatus comprising:  
an antenna for holding communication with a base station or a parent unit;

voice input means including a microphone;  
voice output means including a speaker or a  
headphone;

operating means including keys and a display  
unit manipulated by a user operating the apparatus;

telephone control means for modulating a  
voice signal from the voice input means and outputting  
the modulated signal to the antenna and demodulating  
a radio signal received through the antenna, extracting  
and outputting the voice signal;

a chargeable battery for supplying power to  
the apparatus;

storage means for storing a compressed music  
data;

data restoration means for reading and  
expanding the data stored in the storage means and  
reproducing the data as a music signal; and

switching means for selecting the voice  
signal demodulated by the telephone control means or  
the music signal reproduced by the data restoration  
means and outputting the selected signal to the voice  
output means;

wherein the signal is switched by the  
switching means according to a busy mode of the  
telephone apparatus.

4. A portable telephone apparatus comprising:  
an antenna for holding communication with a

base station or a parent unit;

voice input means including a microphone;

voice output means including as a speaker or  
a headphone;

operating means including keys and a display  
unit manipulated by a user operating the apparatus;

telephone control means for modulating a  
voice signal from the voice input means and outputting  
the modulated signal to the antenna and demodulating  
a radio signal received through the antenna, extracting  
and outputting the voice signal;

a chargeable battery for supplying power to  
the apparatus;

storage means for storing a compressed music  
data;

data restoration means for reading and  
expanding the data stored in the storage means and  
reproducing the data as a music signal;

first mixing means for mixing the voice signal  
from the voice input means with the music signal  
reproduced by the data restoration means and outputting  
a mixture signal to the telephone control means; and

second mixing means for mixing the voice  
signal demodulated by the telephone control means with  
the music signal reproduced by the data restoration  
means and outputting a mixture signal to the voice  
output means;

wherein a mixing ratio in the mixing means is changed by an operation of the operating means.

5. A portable telephone apparatus comprising:  
an antenna for holding communication with a base station or a parent unit;

voice input means including a microphone;

voice output means including a speaker or a headphone;

operating means including keys and a display unit manipulated by a user for operating the apparatus;

telephone control means for modulating a voice signal from the voice input means and outputting the modulated signal to the antenna and demodulating a radio signal received through the antenna, extracting and outputting the voice signal;

a chargeable battery for supplying power to the apparatus;

storage means for storing a compressed music data;

data restoration means for reading and expanding the data stored in the storage means and reproducing the data as a music signal;

first mixing means for mixing the voice signal from the voice input means with the music signal reproduced by the data restoration means and outputting a mixture signal to the telephone control means;

second mixing means for mixing the voice signal demodulated by the telephone control means with

the music signal reproduced by the data restoration means and outputting a mixture signal to the voice output means; and

means for changing a mixing ratio in the mixing means according to a busy mode of the telephone apparatus.

6. A portable telephone apparatus comprising:  
an antenna for holding communication with a base station or a parent unit;

voice input means including a microphone;  
voice output means including a speaker or a headphone;

operating means including keys and a display unit manipulated by a user operating the apparatus;

telephone control means for modulating a voice signal from the voice input means and outputting the modulated signal to the antenna and demodulating a radio signal received through the antenna, extracting and outputting the voice signal;

a chargeable battery for supplying power to the apparatus;

storage means for storing a compressed music data;

data restoration means for reading and expanding the data stored in the storage means and reproducing the data as a music signal;

first mixing means for mixing the voice signal from the voice input means with the music signal

reproduced by the data restoration means and outputting a mixture signal to the telephone control means;

second mixing means for mixing the voice signal demodulated by the telephone control means with the music signal reproduced by the data restoration means and outputting a mixture signal to the voice output means; and

means for increasing a mixing ratio of the music signal in the first mixing means when a busy mode is suspended by the operating means.

7. A portable telephone apparatus comprising:  
an antenna for holding communication with a base station or a parent unit;

voice input means including a microphone;

operating means including keys and a display unit manipulated by a user operating the apparatus;

telephone control means for modulating a voice signal from the voice input means and outputting the modulated signal to the antenna and demodulating a radio signal received through the antenna, extracting and outputting the voice signal;

a chargeable battery for supplying power to the apparatus;

storage means for storing a compressed music data;

data restoration means for reading and expanding the data stored in the storage means and reproducing the data as a music signal;

first voice output means for outputting as a sound the voice signal demodulated by the telephone control means; and

second voice output means for outputting as a sound the music signal reproduced by said data restoration means;

wherein a volume of said second voice output means is adjusted by an operation of said operating means.

8. A portable telephone apparatus comprising:  
an antenna for holding communication with a base station or a parent unit;

voice input means including a microphone;

operating means including keys and a display unit manipulated by a user operating the apparatus;

telephone control means for modulating a voice signal from the voice input means and outputting the modulated signal to the antenna and demodulating a radio signal received through the antenna, extracting and outputting the voice signal;

a chargeable battery for supplying power to the apparatus;

storage means for storing a compressed music data;

data restoration means for reading and expanding the data stored in the storage means and reproducing the data as a music signal;



first voice output means for outputting as a sound the voice signal demodulated by the telephone control means; and

second voice output means for outputting as a sound the music signal reproduced by said data restoration means;

wherein a sound volume of said second voice output means is adjusted according to a busy mode of the telephone apparatus.

9. A portable telephone apparatus comprising:  
an antenna for holding communication with a base station or a parent unit;

voice input means including a microphone;

voice output means including a speaker or a headphone;

operating means including keys and a display unit manipulated by a user operating the apparatus;

telephone control means for modulating a voice signal from the voice input means and outputting the modulated signal to the antenna and demodulating a radio signal received through the antenna, extracting and outputting the voice signal to the voice output means;

a chargeable battery for supplying power to the apparatus;

storage means for storing a compressed music data;

data restoration means for reading and expanding the data stored in the storage means, reproducing the data as a music signal and outputting the music signal to the voice output means; and

wire, radio or optical communication means for downloading the compressed music data to the storage means from an external source.

10. A portable telephone apparatus according to Claim 9,

wherein said communication means includes bidirectional communication.

11. A portable telephone apparatus comprising:  
an antenna for holding communication with a base station or a parent unit;

voice input means including a microphone;  
voice output means including a speaker and a headphone;

operating means including keys and a display unit manipulated by a user operating the apparatus;

telephone control means for modulating a voice signal from the voice input means and outputting the modulated signal to the antenna and demodulating a radio signal received through the antenna, extracting and outputting the voice signal to the voice output means;

a chargeable battery for supplying power to the apparatus;

storage means for storing a compressed music data; and

data restoration means for reading and expanding the data stored in the storage means, reproducing the data as a music signal, and outputting the music signal to said voice output means;

wherein said storage means is removable.

12. A portable telephone apparatus comprising:  
an antenna for holding communication with a base station or a parent unit;

voice input means including a microphone;

voice output means including a speaker or a headphone;

operating means including keys and a display unit manipulated by a user operating the apparatus;

telephone control means for modulating a voice signal from the voice input means and outputting the modulated signal to the antenna and demodulating a radio signal received through the antenna, extracting and outputting the voice signal to the voice output means;

a chargeable battery for supplying power to the apparatus;

storage means for storing a compressed music data; and

data restoration means for reading and expanding the data stored in the storage means,

2025 RELEASE UNDER E.O. 14176

wherein data related to the telephone apparatus including an abbreviated dial and data including memo data produced by an operation of the operating means as well as the music data are read and written.

```

        voice input means such as a microphone;
        voice output means such as a speaker or a
headphone;

```

telephone control means for modulating a voice signal from the voice input means and outputting the modulated signal to the antenna and demodulating a radio signal received through the antenna, extracting and outputting the voice signal to the voice output means;

```
storage means for storing a compressed music
data;
```

data restoration means for reading and  
expanding the data stored in the storage means.

reproducing the data as a music signal and outputting the music signal to the voice output means;

wherein not only a telephone voice and also music data contained in a radio wave arriving from the base station or the parent unit is demodulated by the telephone control means and stored in the storage means.

14. An audio apparatus comprising:

data compression means for compressing a music data into a format expandable by data restoration means through a conversion process corresponding to a recording scheme of at least one of a plurality of audio media including CD, MD and a cassette tape; and

communication means for downloading the compressed music data to a portable telephone apparatus having an interface with said communication means.

15. An audio apparatus comprising:

data compression means for compressing a music data into a format expandable by a data restoration means through a conversion process corresponding to a recording scheme of at least one of a plurality of audio media including CD, MD and a cassette tape;

removable storage means; and

means for writing the compressed music data into the removable storage means.

16. An audio apparatus comprising:

data compression means for compressing a music data into a format expandable by a data restoration means through a conversion process corresponding to a recording scheme of at lease one of a plurality of audio media including CD, MD and a cassette tape; and

a power supply unit for charging a battery;

wherein the music data is downloaded while the battery is simultaneously charged.